

# Pilot Ophthalmology Curriculum to Promote Task Shifting in Monrovia, Liberia



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## Background

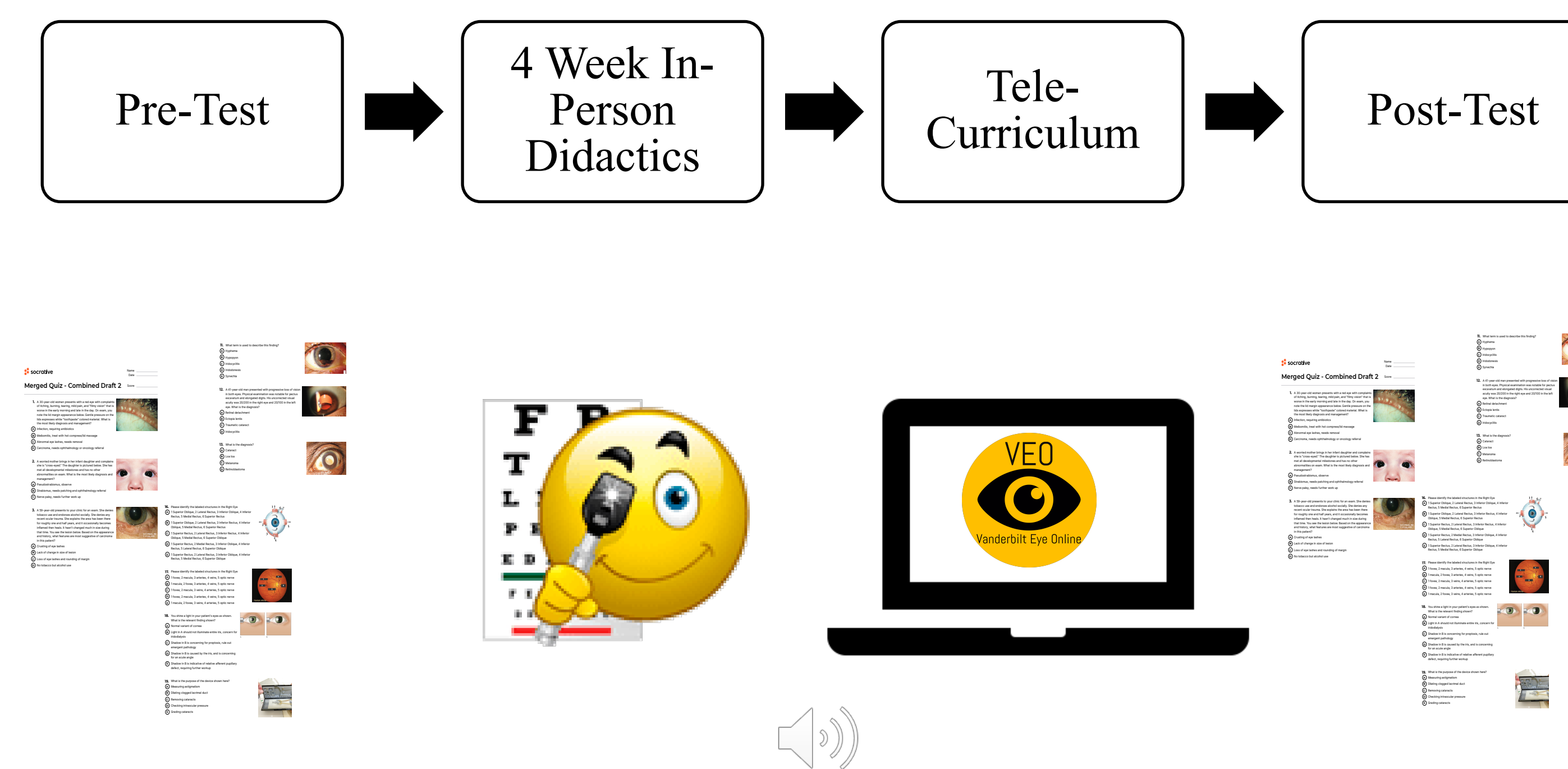
- The International Council of Ophthalmology (ICO) global action plan to alleviate avoidable blindness and visual impairment emphasizes a capacity-development response in areas lacking eye care personnel.
- The ICO estimates there is ~1 ophthalmologist per million people in Liberia,<sup>1</sup> creating a tremendous need in the wake of the Ebola epidemic.
- Task shifting is a promising approach to address shortages in the local healthcare workforce by redistributing tasks across providers.<sup>2,3</sup>

## Methods

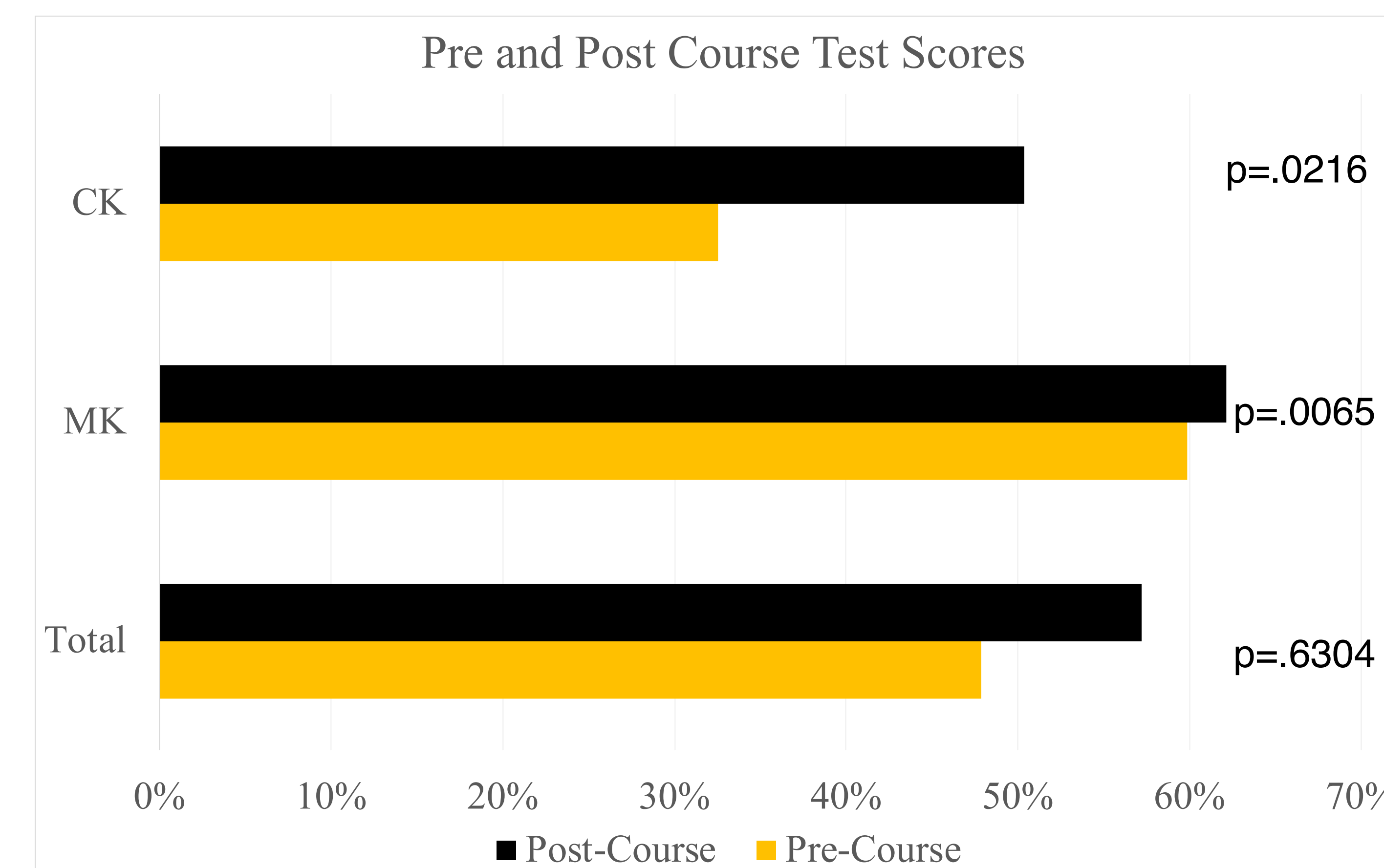
- Faculty at Vanderbilt Eye Institute helped create a curriculum to promote task shifting of eye care to non-specialists in July 2019.
- The curriculum is composed of tele-educational resources, quizzes, and on-site didactics, focused on ophthalmologic conditions identified by the West African primary care medical board.
- Vanderbilt Eye Institute faculty traveled to Monrovia, Liberia, to institute the curriculum at ELWA hospital.
- Eleven family practice residents, across all years of training, were given a 25-question “pretest” and “posttest” split into a medical knowledge portion (MK) covering key diagnoses and a clinical knowledge (CK) portion covering eye exams.

In-Person	Tele-Curriculum
Exam Techniques, Disease Identification and Management	Refractive errors
Ophthalmology Anatomy and Physiology (IOP)	Lid and lacrimal system
Day 1 Workshop	Conjunctiva
Day 2 Visual Function Testing	Sclera
Day 3 Common External Ocular Conditions	Cornea
Day 4 Ocular Vascular Diseases and Papilledema	Uvea
Day 5 Ocular Infectious Disease Manifestations	Anterior chamber
Clinical Skills and Nuanced Clinical Scenarios	Iris and pupil
Common Pediatric Ocular Diseases; School Screening	Lens
Day 6 The Eye in Systemic Disease; Diabetic Screening	Vitreous
Day 7 Camp Management of Simple Eye Infections/	Retina and choroid
Day 8 Inflammations	Optic nerve
Day 9 Ocular Emergencies and Referral Guidelines	Orbit
Day 10 Office Eye Procedures	Extraocular muscles and cranial nerves
	Basic Skills Review
	General Overview
	Emergencies to Recognize
	Diagnosis and Management by System
	Procedures in Ophthalmology and Ophthalmoradiology
	Screening & Prevention
	International Council of Ophthalmology Guidelines
	Ebola Publications Folder

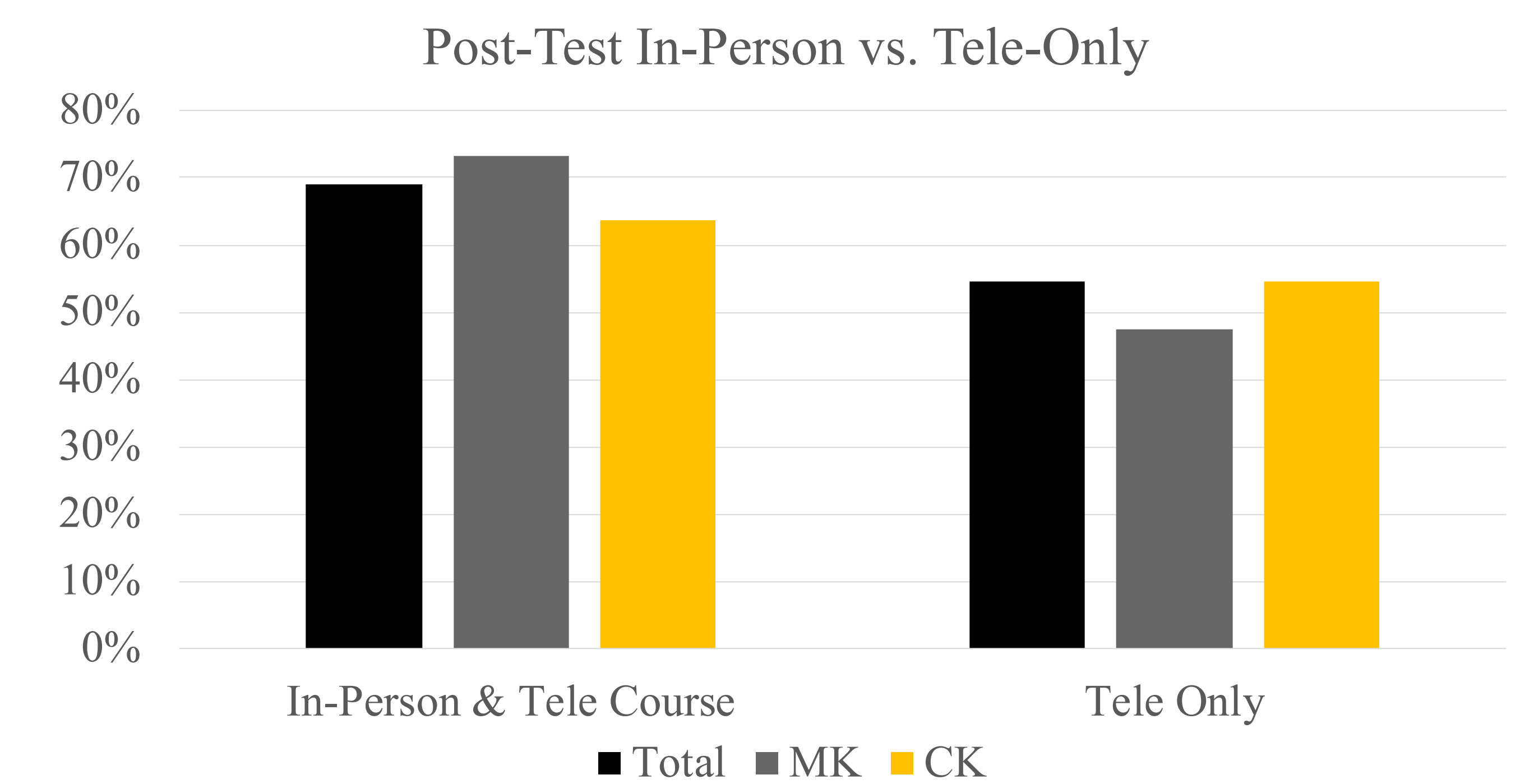
## Results



- Two residents participated in a 4-week ophthalmology rotation. All eleven had access to didactics and a web-based learning platform.
- The average scores of combined, MK, and CK sections were 48%, 60%, and 33%, respectively, on the pretest, and 57%, 62%, and 50%, respectively, on the posttest.
- Differences were statistically significant for the total average (p=.0216) and CK score (p=.0065), but not for the MK score (p=.6304).



## Results



- Despite the positive association of in-person didactics with higher test scores, the small sample size (n=2) prevented thorough statistical analysis.

## Conclusions

Although Vanderbilt Eye Institute is helping to train the first local ophthalmologists in Liberia, adequate nationwide eye care will require task shifting to non-ophthalmology providers. Here, the authors provide a model curriculum to enable non-ophthalmology primary care providers to appropriately triage and manage patients with ophthalmologic issues.

## References

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